OCCUPATIONAL INJURIES AND DISEASES IN ALBERTA

Lost-Time Claims, Disabling Injury Claims and Claim Rates

Upstream Oil and Gas Industries 2005 to 2009

WORK SAFE ALBERTA

Government of Alberta

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HIGHLIGHTS

Lower lost-time claim and disabling injury rates in 2009.

- The 2009 lost-time claim rate for the Upstream Oil and Gas industries decreased by 16.6% to 0.70 per 100 person-years worked, from 0.84 in 2008. The average lost-time claim rate for all sectors in the province was 1.69 per 100 person-years worked. The duration rate in 2009 was 28 days lost per 100 person-years worked, a 4.9% decrease from 2008 and lower than the provincial average for all industry sectors, 40 days lost.
- The disabling injury rate decreased by 28.4% in 2009, to 2.22 per 100 person-years worked, from 3.10 in 2008. The average disabling injury rate for all sectors in the province was 3.09 per 100 person-years worked.
- The decreases in the lost-time claim and disabling injury rates in 2009 were the result of a decrease in the number of injury claims. Lost-time claims decreased by 31.3% and disabling injury claims by 40.8%. The person-years worked estimates decreased by 17.4%.
- The 2009 fatality rate was 125 per million person-years worked, the same as 2008. The average fatality rate for all sectors in the province in 2009 was 71 per million person-years worked.

Small-to-medium employers experienced the highest injury rates.

- Employers with 10 to 19 person-years worked had the highest lost-time claim rate in 2009, at 1.57 per 100 person-years worked. Employers with 100 or more person-years worked had the lowest rate, 0.44.
- Employers with 40 to 99 person-years worked had the highest disabling injury at 3.45 per 100 person-years worked, followed by employers with 10 to 19 person-years worked, 2.87. Employers with more than 100 person-years worked had a disabling injury rate almost four times higher than their lost-time claim rate.

Injury rates decreased in most sectors.

- Lost-time claim and disabling injury rates decreased in most Upstream Oil and Gas industries, except for the Petroleum Producers/Exploration sub-sector and the Oilfield Maintenance and Construction sub-sector, which showed an increase in lost-time claim rate but a decrease in disabling injury rate, and the Oil Sands sub-sector, which displayed an increase in both lost-time claim and disabling injury rates.
- The Petroleum Producers/Exploration sub-sector had the lowest lost-time claim rate at 0.25 per 100 person-years worked. The Oilfield Trucking Services industry had the

highest at 2.12 per 100 person-years worked.

- The Petroleum Producers/Exploration sub-sector had the lowest disabling injury rate at 0.62 per 100 person-years worked. The Well Servicing with Service Rigs sub-sector had the highest disabling injury rate at 4.66 per 100 person-years worked, followed by the Drilling of Oil and Gas Wells sub-sector at 4.64 per 100 person-years worked.
- The Upstream Oil and Gas industries accounted for 7.3% of the person-years worked in the province, 3.0% of the lost-time claims, 6.3% of modified work claims and when combined, 5.3% of the disabling injury claims.

In 2009, sprains, strains and tears was the most common nature of injury.

- Sprains, strains and tears continued to be the leading nature of injury, accounting for 44.7% of the disabling injury claims submitted in the Upstream Oil and Gas industries. However, the Upstream Oil and Gas industries has higher relative proportions for disabling injury claims for fracture and dislocations, indicating a likelihood 1.2 times the average for all sectors.
- The back (including spine and spinal cord) was the most commonly injured body part, accounting for 19.1% of all disabling injury claims. Disabling injury claims connected with the fingers or fingernails displayed a relative proportion that was 0.9 times the average for all sectors. Injuries to ankles and feet except toes also displayed a relative proportion that was 0.9 times the average for all sectors.
- The primary sources of injury causing disabling injury claims were persons, plants, animals and minerals, accounting for 19.7% of the disabling injury claims, followed by parts and materials, 18.6%. Compared to the average for all sectors in the province however, the injury category minerals – metallic or nonmetallic displayed a relative proportion that was 1.4 times higher than the average for all sectors. Chemicals and chemical products displayed a relative proportion that was 1.2 times the average for all sectors.
- In 2009, the two most common types of event or exposure, bodily reaction or exertion as well as contact with objects and equipment, accounted for 68.1% of disabling injury claims in the Upstream Oil and Gas industries. Disabling injury claims caused by fires and explosions, however, had a relative frequency that was 2.5 times the average for all sectors. Caught in object, exposure to harmful substances and transportation accidents also had relative frequencies that were 1.4, 1.2 and 1.1 times the average for all sectors.
- The median work days lost was 14, compared to the average for all sectors of the province, seven. The average days lost per claim was 40, compared to the average for all sectors in the province, 24 days lost per claim.

A few notes about this report:

- This report presents 2009 data beside 2008 data to help with comparisons. Additional historical data are presented where possible.
- Information presented in this report is based on incidents that occurred during 2009 and were accepted as lost-time or modified work claims by Workers' Compensation Board – Alberta (WCB) as of March 31, 2010.
- Injury claim rates based on a small number of person-years worked are too volatile to make valid comparisons over time. Therefore, claim rates are not calculated when there are fewer than 40 person-years worked. Duration rates are also volatile when based on a small number of lost-time claims. Duration rates are not calculated when there are fewer than 30 lost-time claims.
- Estimates of year-over-year change for rates presented in this report are calculated using unrounded figures and may not match those produced from rounded figures. Percentages displayed in tables may also not total 100, due to rounding.
- Throughout the report, the lost-time claim rate is the number of lost-time claims per 100 person-years worked, the disabling injury rate is the number of disabling injury claims per 100 person-years worked and the duration rate is the number of days lost per 100 person-years worked. Fatality rates are expressed as the number of fatalities per million person-years worked.
- Analyses by industry are based on WCB industry classification and aggregation. For more information see

  https://ds.wcb.ab.ca/WCB.RateManual.WebServer/alphaindex.aspx.
- Analyses by occupation group are based on the National Occupational Classification (NOC). The NOC provides a standard list of occupations across the country. For more information see http://www5.hrsdc.gc.ca/NOC.
- Occupational injuries and diseases listed throughout this report are based on the Z795 Coding of Work Injury or Disease Information produced by the Canadian Standards Association (CSA) for categorizing occupational injury and disease. For more information see

  http://www.shopcsa.ca/onlinestore/GetCatalogItemDetails.asp?mat=2416404.
- Terms, definitions and formulas used throughout this report are described in Appendix A.

INTRODUCTION

Role of the Ministry of Employment and Immigration

The Ministry of Employment and Immigration includes the reporting entity of the Department of Employment and Immigration (E&I). E&I develops and delivers policies, programs and services to foster labour force development; ensure fair, safe and healthy workplaces; and help those in need. The Department also provides leadership for immigration and interprovincial labour mobility policy for the Government of Alberta, and coordinates resources to support the settlement and integration of new Albertans.

Occupational Injuries and Diseases in Alberta – Upstream Oil and Gas Industries 2005 to 2009

E&I prepares this annual report to provide analysis of workplace health and safety to meet the demand from industry and safety associations, labour organizations, employers and workers for incorporating this information into their strategic plans for enhancing workplace health and safety. This includes:

- descriptions of programs and initiatives undertaken in pursuit of its workplace health and safety mission and goals;
- analysis of provincial occupational injury and disease information;
- estimations of the risk of injury or disease at the provincial, industry sector and sub-sector level as well as general descriptions about the incidents and injured workers.

The *Occupational Injuries and Diseases in Alberta* publications present analysis of aggregate injury claim data to allow for the tracking of workplace health and safety performance over time. This is important for evaluating past and present performance, and in providing strategic information for the direction of workplace health and safety policy. The analysis contained in the *Occupational Injury and Diseases* reports provides a comprehensive picture of workplace injuries in the province, allowing for a prevention focus to be made based on injury probabilities, rather than possibilities.

Healthy and Productive Workplaces

E&I promotes safe, healthy and productive workplaces, as well as fair, equitable and stable labour relations to ensure a fair, safe and healthy work environment for Alberta's workers. Work is central to people's lives, and to the stability of families and societies. People want work that provides them with an acceptable standard of living. It is important that workers enter an environment where their health and safety are protected, where they are treated with respect and they are compensated fairly for the job they are doing. This results in an attractive workplace that furthers the position of Alberta employers to be competitive in the

global economy (see Note 1.1). Alongside the human cost of occupational injuries and diseases and the impact on families and society, the economic costs are numerous.

Note 1.1
Research by the International Institute for Management Development and the World Economic Forum suggests that the safest-working countries also have the best competitiveness ratings
(ILO, XVIIth World Congress on Safety and Health at Work, Introductory Report: Decent Work-Safe Work, September 2005).

Claim costs for occupational injury and disease by WCB are projected to total $700 million in 2010.[1] These costs are ultimately paid by employers through premium payments, and impact the costs of running a business as well as the final cost of delivering products and services. Further costs associated with occupational injuries and diseases include the material damage to equipment and premises, the additional cost of hiring staff to cover for injured workers, and the lost productivity resulting from the absence. Additional impacts of poor health and safety for employers include higher absenteeism and lower morale of employees, loss of skilled and experienced employees, loss of the company's investment in training, and difficulty recruiting high-quality employees due to the loss of image (particularly in the case of subcontractors to larger companies) all leading to losses in productivity and underutilization of production (see Note 1.2).

Other costs borne by the economy and society due in part to work-related injuries and diseases include early retirements, unemployment and poorer households. The International Labour Organization (ILO) estimates that in high-income countries, around 40% of all retirements (before statutory age) are caused by disability. This is equivalent to around 14% of the lifetime working capacity of the employed labour force.[2] Occupational injuries and diseases also affect unemployment and household income levels. Workers with an impairment of capacity can reduce their re-employability and impact household income. Workplace injuries and diseases typically reduce the overall earnings of households and in certain cases, family members have to give up jobs in order to care for an injured worker.

Note 1.2
The International Labour Organization (ILO) estimates that approximately 4% of Gross Domestic Product is lost due to occupational injuries and diseases (*ILO, World Day for Safety and Health at Work 2009 –Facts on safety and health at work issues, April 2009).*

[1] See the Workers Compensation Board Alberta 2010 Premium Rate Manual
https://www.wcb.ab.ca/pdfs/employers/10_premium_rate_manual.pdf
[2] See the International Labour Organization report: Safety in numbers – pointers for a global safety culture at work
http://www.ilo.org/public/english/region/eurpro/budapest/download/safety_in_numbers_engl.pdf

PROVINCIAL SUMMARY

The positive trend continues: there were fewer injuries reported and the injury rate continues to decline in 2009.

In recent years, improvements were made to the analysis of WCB claim information allowing for modified work claims to be analyzed alongside lost-time claims. Using modified work claim data in addition to lost-time claim data ensures a more comprehensive picture of workplace injuries, and allows for greater insight into incident prevention.

Note 2.1

- **The lost-time claim rate represents the probability or risk of an injury or disease to a worker requiring time away from work, during a period of one year of work.**
- **The disabling injury rate represents the probability or risk of a disabling injury.**

A lost-time claim is a claim submitted to the WCB for an occupational injury or disease that causes a worker to have time away from work beyond the day of injury. Included are claims receiving reimbursement of full or partial lost wages due to occupational illness or injury, or payment for permanent loss of function (for example, hearing loss claims).

A modified work claim is submitted for an occupational injury or disease where workers have their normal work duties altered enabling them to remain working without losing time from work. Included in the figures are claims where injured workers are helped back into the workplace with modified duties after time lost due to injury or disease, and cases where workers were provided modified duties prior to time lost because of an injury or disease.

Modifying an injured worker's duties can be beneficial for both an employer and an employee. For the employer, the financial cost of an absent worker can be high and returning an injured employee to work as soon as it is medically possible is important for properly managing compensation, disability claims and productivity levels. For the employee, returning to work as soon as medically possible is beneficial both physically and psychologically, and is linked to quicker recovery rates and higher self-esteem. Long absences from the workplace are also linked to decreases in labour market attachment.

The number of disabling injury claims reflects both the lost-time and modified work concepts and produces an overall figure where an occupational injury or disease disables a worker causing either time lost from work or for normal work duties to be modified.

In 2009, a total of 26,096 lost-time claims were accepted by WCB. This is a decrease of 16.9% from 2008. The person-years worked estimates decreased by 7.9% to 1,539,738 between 2008 and 2009 (see Table 2.1). Expressed as a lost-time claim rate, the data translates into a rate of 1.69 per 100 person-years worked, a decrease of 9.8% from 2008, as proportionately there were fewer lost-time injury claims. The 2009 rate is the lowest in

the past nineteen years and since 1991, the lost-time claim rate has decreased by 59.1%. Since 2005, the lost-time claim rate has decreased by 29.7%.

Table 2.1
Provincial Figures – Alberta: 2008 and 2009

	2008	2009	% Change
Person-years worked	1,671,916	**1,539,738**	-7.9%
Lost-time claims	31,410	**26,096**	-16.9%
Lost-time claim rate	1.88	**1.69**	**-9.8%**
Modified-work claims	51,725	**34,818**	-32.7%
Lost-time claims involving modified-work	22,443	**13,409**	-40.3%
Disabling injury claims	60,692	**47,505**	-21.7%
Disabling injury rate	3.63	**3.09**	**-15.0%**
Duration rate	41	**40**	-3.2%
Days lost (LTC)	689,523	**614,757**	-10.8%
Transaction claim costs (LTC)	$211,054,921	**$195,089,312**	-7.6%

Data Source: WCB Data, Prepared by Data Development and Evaluation

The total number of modified work claims submitted in 2009 was 34,818, a decrease of 32.7%. There were 13,409 claims involving both lost-time and modified work. The number of disabling injury claims was 47,505, a decrease of 21.7% from 2008. The number of lost-time claims involving modified work decreased by 40.3% from 2008, indicative of improving claims management. Expressed as a rate, the 2009 disabling injury rate was 3.09 per 100 person-years worked, a decrease of 15.0% from the 2008 rate of 3.63.

Estimates of injury and disease severity are calculated using information on the number of days lost from work. Three basic measures of severity are the duration rate, median days lost from work and average days lost from work. The efforts of employers to introduce modified work programs to integrate injured workers back into the workforce also has a positive impact on work days lost. The duration rate of 40 days lost per 100 person-years worked was 3.2% lower than in 2008. The median number of work days lost in 2009 was seven, the same as 2008, and the average days lost increased to 24, from 22 in 2008.

Table 2.2 displays the lost-time claim and disabling injury figures and rates for the province, and also for the major industry sectors in Alberta. The data provides a useful setting for analyzing the health and safety performance of the Upstream Oil and Gas industries.

The 2009 lost-time claim rate for the Upstream Oil and Gas industries of 0.70 per 100 person-years worked is lower than all major industry sectors except the Mining and Petroleum Development sector. The disabling injury rate for the Upstream Oil and Gas industries of 2.22 per 100 person-years worked is higher than two of the major industry sectors.

Table 2.2
Lost-Time Claim and Disabling Injury Rates by Major Industry Sector – Alberta: 2008 and 2009

Major Industry Sector	2008		2009	
	Lost-Time Claim Rate	Disabling Injury Rate	Lost-Time Claim Rate	Disabling Injury Rate
Alberta	1.88	3.63	**1.69**	**3.09**
Agriculture and Forestry	2.72	3.65	**2.36**	**3.02**
Business, Personal and Professional Services	1.20	1.79	**1.08**	**1.57**
Construction and Construction Trade Services	1.91	4.65	**1.73**	**3.92**
Manufacturing, Processing and Packaging	2.24	5.78	**1.65**	**4.42**
Mining and Petroleum Development	0.66	2.92	**0.53**	**2.03**
Public Administration, Education and Health Services	2.29	3.00	**2.21**	**2.90**
Transportation, Communication and Utilities	2.69	4.42	**2.44**	**3.98**
Wholesale and Retail	1.99	3.44	**1.85**	**3.17**
Upstream Oil and Gas Industries	0.84	3.10	**0.70**	**2.22**

Data Source: WCB Data, Prepared by Data Development and Evaluation

The Upstream Oil and Gas industries differ from industries included in the Mining and Petroleum Development sector as they focus more specifically on upstream operations. Upstream industries are generally involved in the earlier stages of production which includes activities such as exploration, seismic exploration, oil and gas drilling and some processing of unrefined oil and gas products. Downstream industries are generally involved in the later stages of production. They process and refine raw products and then distribute them. Examples of downstream industries are refineries, petrochemical plants, petroleum products distributors, retail outlets, natural gas distribution utilities and refined product pipeline systems.

INDUSTRY SECTOR SUMMARY

In 2009, the lost-time claim rate for the Upstream Oil and Gas Industries was 0.70 per 100 person-years worked.

The Upstream Oil and Gas industries lost-time claim rate decreased in 2009 by 16.6% to 0.70 per 100 person-years worked, from 0.84 in 2008. The disabling injury rate decreased by 28.4%, to 2.22 per 100 person-years worked (see Table 3.1). The average lost-time claim rate for all sectors in the province was 1.69 per 100 person-years worked and the average disabling injury rate was 3.09 per 100 person-years worked.

The decreases in the 2009 lost-time claim and disabling injury rates for the Upstream Oil and Gas Industries were the result of a greater decrease in the number of injury claims than the decrease in the number of person-years worked. The number of lost-time claims decreased by 31.3%, to 788 in 2009, and the number of disabling injury claims decreased by 40.8%, to 2,497. The person-years worked decreased by 17.4%. The decreases in claims were a result of decreases in all sub-sectors except the Oil Sands sub-sector. The largest sub-sector, Downhole and Other Oilfield Services, accounting for approximately 28.5% of person-years worked, displayed a decrease of 34.4% in lost-time claims and 42.7% in disabling injury claims.

Table 3.1
Upstream Oil and Gas Industries – Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	136,113	112,433	-17.4%
Lost-time claims	1,147	788	-31.3%
Lost-time claim rate	0.84	0.70	-16.6%
Modified-work claims	3,963	2,180	-45.0%
Lost-time claims involving modified work	894	471	-47.3%
Disabling injury claims	4,216	2,497	-40.8%
Disabling injury rate	3.10	2.22	-28.4%
Duration rate	30	28	-4.9%
Days lost (LTC)	40,412	31,758	-21.4%
Transaction claim costs (LTC)	$18,463,667	$14,852,181	-19.6%

Data Source: WCB Data, Prepared by Data Development and Evaluation

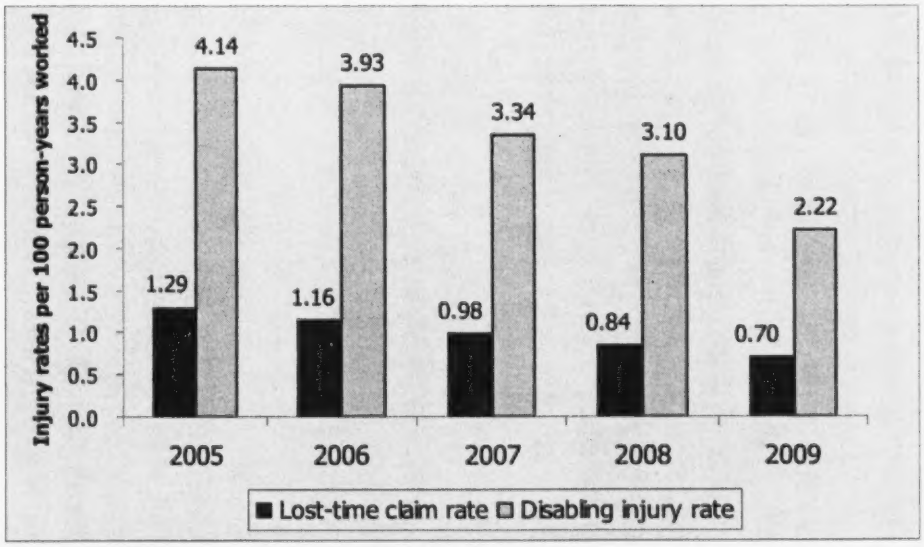
Estimates of injury and disease severity are calculated using information on the number of days lost from work. Three basic measures of severity are the duration rate, median days lost from work and average days lost from work. The efforts of employers to introduce modified work programs to integrate injured workers back into the workforce also has a positive impact on work days lost. In 2009, the Upstream Oil and Gas industries had a duration rate of 28, a 4.9% decrease from the 2008 rate of 30 and lower

than the provincial rate of 40. The median work days lost was 14, compared to the provincial figure of seven. The average days lost per claim was 40 compared to the average for all sectors in the province, 24 days per claim.

Since 2005 (see Chart 3.1), the lost-time claim rate for the Upstream Oil and Gas industries decreased by 45.7%, greater than the average decrease seen for all sectors of the province, 29.7%. Since 2005, the disabling injury rate decreased by 46.3%. The average decrease in the disabling injury rate since 2005 for all sectors in the province was 23.3%.

Chart 3.1

Injury Rates for Upstream Oil and Gas Industries - Alberta: 2005 - 2009



Data Source: WCB Data, Prepared by Data Development and Evaluation

Rates by Employer Size

In the Upstream Oil and Gas industries, employers with 10 to 19 person-years worked had the highest lost-time claim rate at 1.57 per 100 person-years worked, followed by employers with less than 10 person-years worked, 1.20. Employers with 100 or more person-years worked had the lowest rate, 0.44 (see Table 3.2). The lost-time claim rate for employers with 100 or more person-years worked was significantly lower than the rates for other groups, and is different from the trend seen in other sectors. Employers with 40 to 99 person-years worked and 20 to 39 person-years worked usually have the highest lost-time claim rate while employers with less than 10 person-years worked have the lowest.

Employers with 40 to 99 person-years worked had the highest disabling injury at 3.45 per 100 person-years worked, followed by employers with 10 to 19 person-years worked, 2.87 per 100 person-years worked. Employers with more than 100 person-years worked had a disabling injury rate almost four times higher than their lost-time claim rate. Low lost-time claim rates and high disabling injury rates can be indicative of proficient claims

management. It may also be a reflection of larger employers having greater capacity to offer modified duties to injured workers than smaller employers.

Table 3.2
Lost-Time Claim and Disabling Injury Rate by Size of Employer-Alberta: 2009

Size of Employer	Number of Accounts	Person-Years	Lost-Time Claims	Disabling Injury Claims	Lost-time Claim Rate	Disabling injury Rate
Less than 10 person-years worked	15,256	14,511	174	232	1.20	1.60
10 to 19 person-years worked	366	5,220	82	150	1.57	2.87
20 to 39 person-years worked	205	5,750	62	159	1.08	2.77
40 to 99 person-years worked	145	9,248	94	319	1.02	3.45
100 or more person-years worked	136	77,703	340	1,601	0.44	2.06
Unspecified	9	N/A*	36	36	N/A*	N/A*

* These are employers with no payroll information or with person-years worked equal to zero
Data Source: WCB Data, Prepared by Data Development and Evaluation

Distribution of Injury Claims

Table 3.3 presents figures for the proportion of employers in the Upstream Oil and Gas industries without lost-time claims or disabling injury claims in 2009. Table 3.4 displays figures for the number of claims submitted by employers.

Table 3.3
Proportion of Employers with no Lost-Time or Disabling Injury Claims – Upstream Oil and Gas Industries: 2009

Proportion of Employers	With no Lost-Time Claims	With no Disabling Injury Claims
Upstream Oil and Gas Industries	97%	96%

Data Source: WCB Data, Prepared by Data Development and Evaluation

For the Upstream Oil and Gas industries, 97% of employers had no lost-time claims and 96% of employers had no disabling injury claims, meaning the injuries and diseases happening are the result of incidents occurring at the operations of less than 5% of employers (see Table 3.3). These figures however, are influenced by employer size. In 2009, the number of employers with no lost-time claims and the number of employers with no disabling injury claims translates to approximately 38% and 28% of the total person-years worked in the Upstream Oil and Gas industries respectively (see Table 4.10).

For employers with submitted claims, 71% submitted one lost-time claim, 24% two to five claims and 4% six or more lost-time claims. For disabling injury claims, similar proportions exist although the number of employers submitting six or more disabling injury claims was 13% (see Table 3.4).

Table 3.4
Proportion of Employers with Claims – Upstream Oil and Gas Industries: 2009

1 Lost-Time Claim	2 to 5 Lost-Time Claims	6 to 20 Lost-Time Claims	Over 20 Lost-Time Claims
71%	24%	4%	0%
1 Disabling Injury Claim	**2 to 5 Disabling Injury Claims**	**6 to 20 Disabling Injury Claims**	**Over 20 Disabling Injury Claims**
58%	28%	10%	3%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Employers that submitted one to five lost-time claims and employers that submitted one to five disabling injury claims accounted for around 37% and 29% of the total person-years worked in the Upstream Oil and Gas industries respectively. Employers that submitted six or more lost-time and employers that submitted six or more disabling injury claims accounted for approximately 25% and 44% of the total person-years worked in the Upstream Oil and Gas industries.

Oilfield Trucking Services continues to have the highest lost-time claim rate of all the Upstream Oil and Gas Sub-sectors.

Between 2005 and 2009, the Oilfield Trucking Services sub-sector had the highest lost-time claim rate, although it also displayed the second largest decrease in its lost-time claim rate since 2005, 51.2%. In 2009, its lost-time claim rate was 2.12 per 100 person-years worked. The Drilling of Oil and Gas Wells sub-sector displayed the largest decrease in its lost-time claim rate since 2005, 52.5%. The Petroleum Producers/Exploration sub-sector had the lowest lost-time claim rate in 2009, 0.25 per 100 person-years worked (see Table 4.1).

Table 4.1
Lost-Time Claim Rate by Upstream Oil and Gas Sub-Sector — Alberta: 2005-2009

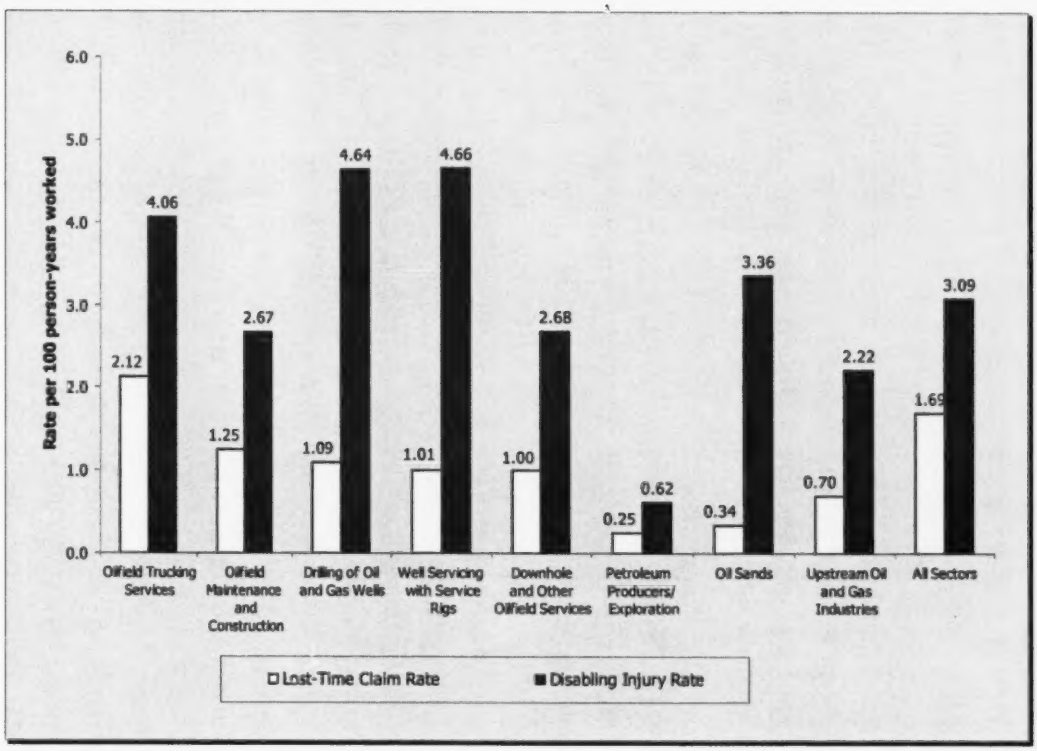
Sub-Sector	2005	2006	2007	2008	2009
Upstream Oil and Gas	1.29	1.16	0.98	0.84	**0.70**
Petroleum Producers/ Exploration	0.30	0.30	0.29	0.23	**0.25**
Oilfield Maintenance and Construction	2.04	2.44	1.91	1.14	**1.25**
Well Servicing with Service Rigs	1.83	1.59	1.36	1.28	**1.01**
Drilling of Oil and Gas Wells	2.31	1.84	1.46	1.40	**1.09**
Downhole and Other Oilfield Services	1.76	1.48	1.48	1.34	**1.00**
Oil Sands	0.22	0.16	0.36	0.30	**0.34**
Oilfield Trucking Services	4.35	4.06	2.46	2.67	**2.12**

Data Source: WCB Data, Prepared by Data Development and Evaluation

By sub-sector, Upstream Oil and Gas industries display some of the lowest lost-time claim rates of all the sub-sectors in the province. They also display some of the highest disabling injury rates. For example, in 2009, the Well Servicing with Service Rigs sub-sector had a lost-time claim rate of 1.01 per 100 person-years worked, 40.2% lower than the provincial rate of 1.69 (see Chart 4.1).

In 2009, the Petroleum Producers/Exploration sub-sector had the lowest disabling injury rate of all Upstream Oil and Gas sub-sectors at 0.62 per 100 person-years worked. The Well Servicing with Service Rigs sub-sector had the highest disabling injury rate at 4.66 per 100 person-years worked, followed by the Drilling of Oil and Gas Wells sub-sector at 4.64.

Chart 4.1
Lost-Time Claim and Disabling Injury Rates by Upstream Oil and Gas Sub-Sector — Alberta: 2009



Data Source: WCB Data, Prepared by Data Development and Evaluation

Petroleum Producers/Exploration

In 2009, the lost-time claim rate in the Petroleum Producers/Exploration sub-sector increased by 7.2% to 0.25 per 100 person-years worked, the lowest of all sub-sectors in the Upstream Oil and Gas industries. Over the last five years, the lost-time claim rate for this sub-sector has decreased by 19.3%, from 0.30 per 100 person-years worked in 2005, to 0.25 in 2009.

The sub-sector's disabling injury rate decreased by 17.8% in 2009, to 0.62 per 100 person-years worked and was the lowest of all sub-sectors. The duration rate remains at five days lost per 100 person-years worked, and remains the lowest of all sub-sectors (see Table 4.2).

Table 4.2
Petroleum Producers/Exploration — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	53,619	**43,088**	-19.6%
Lost-time claims	123	**106**	-13.8%
Lost-time claim rate	**0.23**	**0.25**	**7.2%**
Modified-work claims	374	**226**	-39.6%
Lost-time claims involving modified work	90	**63**	-30.0%
Disabling injury claims	407	**269**	-33.9%
Disabling injury rate	**0.76**	**0.62**	**-17.8%**
Duration rate	5	**5**	0%
Days lost (LTC)	2,724	**2,225**	-18.3%
Transaction claim costs (LTC)	$1,038,955	**$1,283,390**	23.5%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Oilfield Maintenance and Construction

In 2009, the lost-time claim rate in the Oilfield Maintenance and Construction sub-sector increased by 10.3% to 1.25 per 100 person-years worked, from 1.14 in 2008. This was the result of a greater decrease in the number of person-years worked than in injury claims. Lost-time claims decreased by 16.4% and person-years worked decreased by 24.2%. Over the last five years, the lost-time claim rate for this industry has fluctuated between 1.14 per 100 person-years worked in 2008 and 2.44 in 2006.

The disabling injury rate decreased by 7.4% in 2009, to 2.67 per 100 person-years worked. The duration rate remained at 46 days lost per 100 person-years worked (see Table 4.3).

Table 4.3
Oilfield Maintenance and Construction — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	10,737	**8,140**	-24.2%
Lost-time claims	122	**102**	-16.4%
Lost-time claim rate	**1.14**	**1.25**	**10.3%**
Modified-work claims	274	**165**	-39.8%
Lost-time claims involving modified work	87	**50**	-42.5%
Disabling injury claims	309	**217**	-29.8%
Disabling injury rate	**2.88**	**2.67**	**-7.4%**
Duration rate	46	**46**	0%
Days lost (LTC)	4,890	**3,782**	-22.7%
Transaction claim costs (LTC)	$1,272,198	**$1,318,443**	3.6%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Well Servicing with Service Rigs

In 2009, the lost-time claim rate for the Well Servicing with Service Rigs sub-sector decreased by 21.3% to 1.01 per 100 person-years worked. This was a result of lost-time claims decreasing by an even greater amount than the decrease in person-years worked. Lost-time claims decreased by 36.4% and person-years worked decreased by 19.2%. Over the last five years, the lost-time claim rate for this industry has decreased by 44.7%, lower than the average decrease for all Upstream Oil and Gas industries, 45.7%, and greater than the average decrease for all sectors in the province, 29.7%. The duration rate decreased by 23.8% in 2009, from 48 to 36 days lost per 100 person-years worked.

In 2009, this sub-sector had the highest disabling injury rate in the Upstream Oil and Gas industries at 4.66 per 100 person-years worked, greater than the average rate for all industries in the province, 3.09 (see Table 4.4).

Table 4.4
Well Servicing with Service Rigs — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	6,003	**4,851**	-19.2%
Lost-time claims	77	**49**	-36.4%
Lost-time claim rate	**1.28**	**1.01**	**-21.3%**
Modified-work claims	486	**211**	-56.6%
Lost-time claims involving modified work	67	**34**	-49.3%
Disabling injury claims	496	**226**	-54.4%
Disabling injury rate	**8.26**	**4.66**	**-43.6%**
Duration rate	48	**36**	-23.8%
Days lost (LTC)	2,858	**1,760**	-38.4%
Transaction claim costs (LTC)	$1,564,723	**$672,208**	-57.0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Drilling of Oil and Gas Wells

The Drilling of Oil and Gas Wells sub-sector experienced a 21.8% decrease in the lost-time claim rate to 1.09 per 100 person-years worked in 2009, from 1.40 in 2008. This was a result of a decrease in lost-time claims of 54.3% and a decrease in person-years worked of 41.5%. Over the last five years, the lost-time claim rate for this sub-sector has decreased by 52.5%. The duration rate in 2009 was 53 per 100 person-years worked, a 3.3% decrease from 2008.

This sub-sector had a disabling injury rate of 4.64 per 100 person-years worked in 2009, higher than the average rate for all industries of the province, 3.09 (see Table 4.5).

Table 4.5
Drilling of Oil and Gas Wells — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	9,996	**5,846**	-41.5%
Lost-time claims	140	**64**	-54.3%
Lost-time claim rate	**1.40**	**1.09**	**-21.8%**
Modified-work claims	692	**245**	-64.6%
Lost-time claims involving modified work	125	**38**	-69.6%
Disabling injury claims	707	**271**	-61.7%
Disabling injury rate	**7.07**	**4.64**	**-34.5%**
Duration rate	55	**53**	-3.3%
Days lost (LTC)	5,531	**3,127**	-43.5%
Transaction claim costs (LTC)	$2,864,811	**$1,455,610**	-49.2%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Downhole and Other Oilfield Services

In 2009, the lost-time claim rate for Downhole and Other Oilfield Services sub-sector decreased by 25.7% to 1.00 per 100 person-years worked from 1.34 in 2008. The number of lost-time claims decreased by 34.4% and the person-years worked estimate decreased by 11.6%. Over the last five years, the lost-time claim rate has decreased by 43.4%, from 1.76 in 2005 to 1.00 per 100 person-years worked in 2009.

The disabling injury rate decreased by 35.2% to 2.68 per 100 person-years worked in 2009, from 4.14 in 2008. The duration rate was 48 days lost per 100 person-years worked, a decrease of 0.7% from 2008 (see Table 4.6).

Table 4.6
Downhole and Other Oilfield Services — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	36,223	**32,006**	-11.6%
Lost-time claims	486	**319**	-34.4%
Lost-time claim rate	**1.34**	**1.00**	**-25.7%**
Modified-work claims	1,377	**731**	-46.9%
Lost-time claims involving modified work	363	**191**	-47.4%
Disabling injury claims	1,500	**859**	-42.7%
Disabling injury rate	**4.14**	**2.68**	**-35.2%**
Duration rate	49	**48**	-0.7%
Days lost (LTC)	17,615	**15,459**	-12.2%
Transaction claim costs (LTC)	$7,810,730	**$7,259,934**	-7.1%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Oil Sands

In 2009, the lost-time claim rate for the Oil Sands sub-sector increased from 0.30 per 100 person-years worked to 0.34, due to a 14.6% increase in lost-time claims submitted. The disabling injury rate increased to 3.36 per 100 person-years worked, from 3.22 in 2008. The lost-time claim rate was the second lowest of all sub-sectors in the Upstream Oil and Gas sector (see Table 4.7 and Chart 4.1).

The duration rate was 6 days lost per 100 person-years worked, an increase of 26.1% from 2008 (see Table 4.7).

Table 4.7
Oil Sands — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	13,610	**13,743**	1.0%
Lost-time claims	41	**47**	14.6%
Lost-time claim rate	**0.30**	**0.34**	**13.5%**
Modified-work claims	435	**452**	3.9%
Lost-time claims involving modified work	38	**37**	-2.6%
Disabling injury claims	438	**462**	5.5%
Disabling injury rate	**3.22**	**3.36**	**4.5%**
Duration rate	5	**6**	26.1%
Days lost (LTC)	699	**890**	27.3%
Transaction claim costs (LTC)	$1,132,897	**$1,297,755**	14.6%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Oilfield Trucking Services

In 2009, the lost-time claim rate for Oilfield Trucking Services sub-sector decreased by 20.4%, to 2.12 per 100 person-years worked and it remains the highest of all the Upstream Oil and Gas industries. The decrease in the rate was a result of the number of lost-time claims decreasing by 36.1% and the person-years worked decreasing by 19.7%.

The disabling injury rate decreased in 2009 by 33.1%, to 4.06 per 100 person-years worked, greater than the average for all industries of the province, 3.09. The duration rate decreased by 7.8%, from 103 in 2008, to 95 days lost per 100 person-years worked in 2009 (see Table 4.8) and it remains the highest of all sub-sectors in the Upstream Oil and Gas sector.

Table 4.8
Oilfield Trucking Services — Alberta: 2008 - 2009

	2008	2009	% Change
Person-years worked	5,925	4,759	-19.7%
Lost-time claims	158	101	-36.1%
Lost-time claim rate	**2.67**	**2.12**	**-20.4%**
Modified-work claims	325	150	-53.8%
Lost-time claims involving modified work	124	58	-53.2%
Disabling injury claims	359	193	-46.2%
Disabling injury rate	**6.06**	**4.06**	**-33.1%**
Duration rate	103	95	-7.8%
Days lost (LTC)	6,095	4,515	-25.9%
Transaction claim costs (LTC)	$2,779,353	$1,564,840	-43.7%

Data Source: WCB Data, Prepared by Data Development and Evaluation

Distribution of injury claims

Table 4.9 presents figures for the proportion of employers without lost-time or disabling injury claims in 2009, by sub-sector. Table 4.10 displays the respective person-years worked by those employers. Table 4.11 displays figures for the number of claims submitted by employers.

Table 4.9
Proportion of Employers with no Lost-Time or Disabling Injury Claims, by Sub-Sector – Alberta: 2009

Proportion of Employers by Sub-Sector	With no Lost-Time Claims	With no Disabling Injury Claims
Upstream Oil and Gas	**97%**	**96%**
Petroleum Producers/Exploration	99%	99%
Oilfield Maintenance and Construction	95%	93%
Well Servicing with Service Rigs	87%	79%
Drilling of Oil and Gas Wells	86%	76%
Downhole and Other Oilfield Services	97%	96%
Oil Sands	95%	94%
Oilfield Trucking Services	94%	93%

Data Source: WCB Data, Prepared by Data Development and Evaluation

The Petroleum Producers/Exploration sub-sector had higher proportions of employers with no lost-time or disabling injury claims than the average for all Upstream Oil and Gas industries, indicating a more highly concentrated occurrence of injury in this sector (see Table 4.9). These figures however, are influenced by employer size. In 2009, the number of employers with no lost-time claims translated to 45% of the total person-years worked in

this sub-sector (see Table 4.10). The Oilfield Maintenance and Construction sub-sector had the highest number of person-years worked accounted for by employers with no submitted lost-time claims, 46%, and the Downhole and Other Oilfield Services sub-sector and the Oilfield Trucking Services sub-sector had the highest number of person-years worked with no submitted disabling injury claims, 34%.

Table 4.10
Proportion of Person-years worked accounted for by Employers with no Lost-Time or Disabling Injury Claims, by Upstream Oil and Gas Sub-Sector – Alberta: 2009

Proportion of person-years worked accounted for by employers	With no Lost-Time Claims	With no Disabling Injury Claims
Upstream Oil and Gas	**38%**	**28%**
Petroleum Producers/Exploration	45%	30%
Oilfield Maintenance and Construction	46%	32%
Well Servicing with Service Rigs	22%	10%
Drilling of Oil and Gas Wells	19%	6%
Downhole and Other Oilfield Services	42%	34%
Oil Sands	18%	18%
Oilfield Trucking Services	40%	34%

Data Source: WCB Data, Prepared by Data Development and Evaluation

For employers who did submit claims, the Oil Sands sub-sector had the highest proportion submitting six or more claims each, followed by the Drilling of Oil and Gas Wells sub-sector (see Table 4.11). This is partly a reflection of the risks of working in these sub-sectors, and it is also influenced by the number and size of employers.

Table 4.11
Proportion of Employers with Lost-Time or Disabling Injury Claims, by Upstream Oil and Gas Sub-Sector – Alberta: 2009

Sub-Sector	1 Lost-Time Claim	2 to 5 Lost-Time Claims	6 to 20 Lost-Time Claims	Over 20 Lost-Time Claims
Petroleum Producers/Exploration	67%	28%	6%	0%
Oilfield Maintenance and Construction	77%	19%	3%	0%
Well Servicing with Service Rigs	33%	67%	0%	0%
Drilling of Oil and Gas Wells	47%	32%	21%	0%
Downhole and Other Oilfield Services	80%	16%	3%	0%
Oil Sands	50%	25%	25%	0%
Oilfield Trucking Services	66%	33%	2%	0%

Sub-Sector	1 Disabling Injury Claim	2 to 5 Disabling Injury Claims	6 to 20 Disabling Injury Claims	Over 20 Disabling Injury Claims
Petroleum Producers/Exploration	45%	29%	24%	2%
Oilfield Maintenance and Construction	64%	29%	5%	1%
Well Servicing with Service Rigs	24%	46%	24%	5%
Drilling of Oil and Gas Wells	39%	24%	24%	12%
Downhole and Other Oilfield Services	67%	24%	6%	2%
Oil Sands	33%	22%	44%	0%
Oilfield Trucking Services	56%	35%	9%	0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

DEMOGRAPHICS OF INJURED WORKERS

Injured Worker Characteristics

In 2009, four occupation groups accounted for 64.1% of all lost-time claims in the Upstream Oil and Gas industries, while accounting for approximately one-third of those in employment[3] in this sector (see Table 5.1). Primary production labourers had the most lost-time claims, 22.9%, followed by transportation equipment operators and related workers (excluding labourers), 16.6%. Disabling injury claims followed a similar trend. The same occupation groups accounted for the majority of claims. Primary production labourers accounted for 23.3% of all disabling injury claims. Occupations unique to forestry operations, mining, oil and gas extraction, and fishing (excluding labourers) accounted for 14.0%, although this occupation group did have a higher proportion of workers in employment than the proportion of lost-time or disabling injury claims.

Table 5.1
Lost-Time Claims, Disabling Injury Claims and Employment by Selected Occupation Group — Alberta: 2009

Occupation Group	Lost-Time Claims	Disabling Injury Claims	Employment
Primary Production Labourers	22.9%	23.3%	4.9%
Transportation Equipment Operators and Related Workers, Excl. Labourers	16.6%	10.4%	1.6%
Occupations Unique to Forestry Operations, Mining, Oil and Gas Extraction, and Fishing, Excl. Labourers	12.0%	14.0%	24.9%
Trades Helpers, Construction, and Transportation Labourers and Related Occupations	12.7%	10.1%	0.7%
Heavy Equipment and Crane Operators Including Drillers	8.1%	13.7%	1.2%
Clerical Occupations	2.3%	1.7%	5.7%
Professional Occupations in Natural and Applied Sciences	1.6%	1.3%	12.8%
All Other Occupations	24.0%	25.6%	48.1%

Data Source: WCB Data, Prepared by Data Development and Evaluation; Statistics Canada, Labour Force Survey (Microdata Files)

[3] A comparison of the proportion of claims by occupation group for the Upstream Oil and Gas industries with the numbers in employment has been made using data from the Statistics Canada Labour Force Survey for the Mining and Petroleum Industry. Coverage differences do exist in industry categories. Using proportions attempts to overcome obvious distortions on the numbers in employment, although the impact on proportions in employment is unclear.

In 2009, 44.8% of lost-time claims were from workers under 35 years of age. This same group also accounted for over half of the disabling injury claims. Young workers aged 15 to 24 accounted for 15.4% of lost-time claims, 19.4% of disabling injury claims (see Table 5.2) and for 13.2% of those in employment[4].

Table 5.2
Lost-Time Claims and Disabling Injury Claims by Age — Alberta: 2008 - 2009

Age	2008				2009			
	Lost-Time Claims	%	Disabling Injury Claims	%	Lost-Time Claims	%	Disabling Injury Claims	%
15-19 Years	52	4.5%	244	5.8%	17	2.2%	71	2.8%
20-24 Years	182	15.9%	941	22.3%	104	13.2%	413	16.5%
25-34 Years	352	30.7%	1,425	33.8%	232	29.4%	861	34.5%
35-44 Years	258	22.5%	870	20.6%	185	23.5%	576	23.1%
45-54 Years	205	17.9%	544	12.9%	158	20.1%	407	16.3%
55-64 Years	82	7.1%	171	4.1%	69	8.8%	142	5.7%
65+ Years	15	1.3%	20	0.5%	23	2.9%	26	1.0%
Unspecified	1	0.1%	1	0.0%	0	0.0%	1	<0.1%
Total	1,147	100.0%	4,216	100.0%	788	100.0%	2,497	100.0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

In the Upstream Oil and Gas industries, men accounted for 92.6% of lost-time claims and 93.0% of disabling injury claims (see Table 5.3) while accounting for 75.6% of those employed[5] in these industries.

Table 5.3
Lost-Time Claims and Disabling Injury Claims by Gender — Alberta: 2008 - 2009

Gender	2008				2009			
	Lost-Time Claims	%	Disabling Injury Claims	%	Lost-Time Claims	%	Disabling Injury Claims	%
Women	75	6.5%	271	6.4%	58	7.4%	173	6.9%
Men	1,072	93.5%	3,923	93.1%	730	92.6%	2,323	93.0%
Unspecified	0	0.0%	22	0.5%	0	0.0%	1	<0.1%
Total	1,147	100.0%	4,216	100.0%	788	100.0%	2,497	100.0%

Data Source: WCB Data, Prepared by Data Development and Evaluation

[4] Statistics Canada's Labour Force Survey (2009 Historical Review). See the Occupational Injuries and Diseases in Alberta Young Workers publication.

[5] Statistics Canada's Labour Force Survey (2009 Historical Review) for the Mining and Petroleum sector.

INJURY AND DISEASE ANALYSIS

Being struck by objects and overexertion were the most common causes of lost-time claims in the Upstream Oil and Gas industries. Sprains, strains and tears continued to be the leading nature of injury with the back, including spine/spinal cord, being the most commonly injured body part.

Nature of Injury or Disease

The nature of injury is used to identify the physical characteristics of the injury or disease. In 2009, 92.1% of lost-time claims and 95.2% of disabling injury claims were caused by traumatic injuries and disorders. The three most common traumatic injuries and disorders were: sprains, strains and tears, fractures and dislocations, and other traumatic injuries and disorders (see Table 6.1).

Note 6.1
Throughout this section, the classifications used are based on the Canadian Standards Association (CSA) standards for categorizing occupational injury and disease information.

Compared to the average for all sectors in the province, the Upstream Oil and Gas industries had lower relative proportions[6] of lost-time claims and disabling injury claims than the average in all injury categories. Only disabling injury claims for fractures and dislocations, and burns had higher relative proportions of injuries than the average for all sectors, indicating higher relative likelihood of these types of injury occurring, both at 1.2 times the frequency.

Note 6.2
The CSA standard is designed so that Nature of Injury and Part of Body categories are directly linked when classifying injuries. This is also true for the relationship between the Source of Injury and Type of Event categories.

[6] The relative proportion or number of times higher or lower, compares the Upstream Oil and Gas industries' claim rate and proportion of injuries by each injury type, against the average claim rate and injury proportion for all sectors in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 6.1
Nature of Injury or Disease — Alberta: 2009

Nature of Injury	Lost-Time Claims	%	Disabling Injury Claims	%
Traumatic Injuries and Disorders	**726**	**92.1%**	**2,378**	**95.2%**
Sprains, Strains and Tears	292	37.1%	1,115	44.7%
Surface Wounds and Bruises	60	7.6%	309	12.4%
Fractures and Dislocations	166	21.1%	326	13.1%
Open Wounds	47	6.0%	195	7.8%
Burns	34	4.3%	82	3.3%
Other Traumatic Injuries and Disorders	127	16.1%	351	14.1%
Systemic Diseases and Disorders	**57**	**7.2%**	**106**	**4.2%**
Infectious and Parasitic Disorders	**0**	**0.0%**	**0**	**0.0%**
Neoplasms, Tumors and Cancer	**1**	**0.1%**	**1**	**<0.1%**
Symptoms, Signs and Ill-Defined Conditions	**1**	**0.1%**	**5**	**0.2%**
Multiple Diseases, Conditions and Disorders	**0**	**0.0%**	**1**	**<0.1%**
Other Diseases, Conditions and Disorders	**3**	**0.4%**	**5**	**0.2%**
Nature of Injury - Unknown	**0**	**0.0%**	**1**	**<0.1%**
Total	**788**	**100.0%**	**2,497**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

Part of Body Injured

In 2009, the trunk was the most commonly injured body part associated with lost-time claims, accounting for 31.5% of all lost-time claims and 31.4% of disabling injury claims in the Upstream Oil and Gas industries. This was followed by the upper extremities and lower extremities. The upper extremities had a higher proportion of disabling injury claims than the lower extremities, but a lower proportion of lost-time claims (see Table 6.2).

Compared to the average for all sectors in the province, the Upstream Oil and Gas industries had lower relative proportions[7] of lost-time and disabling injury claims in all injury categories. For disabling injury claims, the fingers or fingernails displayed a relative proportion that was 0.9 times lower in the Upstream Oil and Gas industries than the average for all sectors in the province. Injuries to ankles and feet except toes also displayed a relative proportion that was 0.9 times lower than the frequency for all sectors in the province.

[7] The relative proportion or number of times higher or lower, compares the Upstream Oil and Gas industries' claim rate and proportion of injuries by each injury type, against the average claim rate and injury proportion for all sectors in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 6.2
Part of Body Injured — Alberta: 2009

Part of Body Injured	Lost-Time Claims	%	Disabling Injury Claims	%
Trunk	**248**	**31.5%**	**783**	**31.4%**
Back, Including Spine, Spinal Cord	143	18.1%	477	19.1%
Other Trunk	105	13.3%	306	12.3%
Upper Extremities	**146**	**18.5%**	**670**	**26.8%**
Finger(s), Fingernail(s)	59	7.5%	311	12.5%
Wrist(s) and Hand(s) Except Finger(s)	44	5.6%	207	8.3%
Other Upper Extremities	43	5.5%	152	6.1%
Lower Extremities	**213**	**27.0%**	**638**	**25.6%**
Leg(s)	120	15.2%	310	12.4%
Ankle(s) and Foot (Feet) Except Toes	81	10.3%	297	11.9%
Other Lower Extremities	12	1.5%	31	1.2%
Head	**106**	**13.5%**	**203**	**8.1%**
Other Head Parts	83	10.5%	131	5.2%
Eye(s)	23	2.9%	72	2.9%
Multiple Body Parts	**55**	**7.0%**	**127**	**5.1%**
Neck, Including Throat	**13**	**1.6%**	**59**	**2.4%**
Body Systems	**7**	**0.9%**	**17**	**0.7%**
Part of Body - Unknown	**0**	**0.0%**	**0**	**0.0%**
Other Body Parts	**0**	**0.0%**	**0**	**0.0%**
Total	**788**	**100.0%**	**2,497**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

Source of Injury or Disease

The source of injury or disease describes the object or substance that the worker came in contact with resulting in an injury or disease. In 2009, the primary sources of injury causing lost-time claims in the Upstream Oil and Gas industries were structures and surfaces, accounting for 19.5% of all lost-time claims, persons, plants, animals and minerals, 17.8%, and parts and materials, 17.0%. For disabling injury claims, persons, plants, animals and minerals was the injury category with the highest proportion, 19.7%. This was followed by parts and materials, 18.6% (see Table 6.3).

Compared to the average for all sectors in the province, the Upstream Oil and Gas industries had lower relative proportions of lost-time claims in all injury categories.[8] For disabling injury claims, the injury category, minerals – metallic or nonmetallic displayed a relative proportion that was 1.4 times higher than the average for all sectors. Chemicals and chemical products displayed a relative proportion that was 1.2 times higher than the average for all sectors.

[8] The relative proportion or number of times higher or lower, compares the Upstream Oil and Gas industries' claim rate and proportion of injuries by each injury type, against the average claim rate and injury proportion for all sectors in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 6.3
Source of Injury or Disease — Alberta: 2009

Source of Injury	Lost-Time Claims	%	Disabling Injury Claims	%
Persons, Plants, Animals and Minerals	**140**	**17.8%**	**492**	**19.7%**
Person-Injured or Ill Worker	131	16.6%	454	18.2%
Minerals - Metallic or Nonmetallic (except fuel)	6	0.8%	20	0.8%
Person-Other Than Injured or Ill Worker*	3	0.4%	6	0.2%
Other Persons, Plants, Animals & Minerals	0	0.0%	12	0.5%
Structures and Surfaces	**154**	**19.5%**	**402**	**16.1%**
Parts and Materials	**134**	**17.0%**	**464**	**18.6%**
Vehicles	**90**	**11.4%**	**250**	**10.0%**
Tools, Instruments and Equipment	**81**	**10.3%**	**309**	**12.4%**
Hand Tools - Nonpowered	36	4.6%	146	5.8%
Hand Tools - Powered	3	0.4%	13	0.5%
Other Tools and Equipment	42	5.3%	150	6.0%
Containers**	**41**	**5.2%**	**132**	**5.3%**
Machinery	**31**	**3.9%**	**123**	**4.9%**
Chemicals and Chemical Products	**13**	**1.6%**	**46**	**1.8%**
Furniture and Fixtures	**6**	**0.8%**	**23**	**0.9%**
Other Sources	**93**	**11.8%**	**226**	**9.1%**
Source of Injury - Unknown	**5**	**0.6%**	**30**	**1.2%**
Total	**788**	**100.0%**	**2,497**	**100.0%**

* Persons – other than injured or ill worker: classifies workplace injuries or illnesses inflicted by family members as well as non-family relations, including co-workers, former co-workers, and patients.

** Containers: classifies receptacles that are commonly used to hold, store or carry materials (examples: dishes, cups and glasses, luggage, etc.).

Data Source: WCB Data, Prepared by Data Development and Evaluation

Type of Event or Exposure

The type of event or exposure describes the incident or event that occurred at the time of the exposure that directly resulted in the injury or disease. In 2009, the two most common types of event or exposure, bodily reaction or exertion, and contact with objects and equipment, comprised 58.9% of lost-time claims and 68.1% of disabling injury claims in the Upstream Oil and Gas industries (see Table 6.4).

Lost-time claims caused by fires and explosions had a relative proportion[9] that was 2.2 times higher than the average for all sectors of the province. For disabling injury claims the relative proportion was 2.5 times higher. Caught in object, exposure to harmful substances and transportation accidents also had disabling injury claim relative proportions that were 1.4, 1.2 and 1.1 times higher than the average for all sectors of the province.

[9] The relative proportion or number of times higher or lower, compares the Upstream Oil and Gas industries' claim rate and proportion of injuries by each injury type, against the average claim rate and injury proportion for all sectors in the province. A value equal to 1 indicates an equal probability or likelihood to the average. A value higher than 1 indicates an increased likelihood of this type of injury occurring, and a value less than one indicates a lower likelihood. See Appendix A for calculation details.

Table 6.4
Type of Event or Exposure — Alberta: 2009

Type of Event or Exposure	Lost-Time Claims	%	Disabling Injury Claims	%
Contact with Objects or Equipment	**213**	**27.0%**	**844**	**33.8%**
Struck by Object	109	13.8%	380	15.2%
Caught in Object	66	8.4%	266	10.7%
Struck against Object	21	2.7%	101	4.0%
Rubbed or Abraded	9	1.1%	68	2.7%
Other Contact with Object/Equipment	8	1.0%	29	1.2%
Bodily Reaction or Exertion	**251**	**31.9%**	**856**	**34.3%**
Overexertion	108	13.7%	361	14.5%
Bodily Reaction*	103	13.1%	362	14.5%
Repetitive Motion	15	1.9%	51	2.0%
Other Bodily Reaction/Exertion	25	3.2%	82	3.3%
Falls	**173**	**22.0%**	**437**	**17.5%**
Fall on Same Level	101	12.8%	277	11.1%
Fall to Lower Level	53	6.7%	116	4.6%
Other Falls	19	2.4%	44	1.8%
Transportation Accidents	**61**	**7.7%**	**152**	**6.1%**
Exposure to Harmful Substances	**76**	**9.6%**	**177**	**7.1%**
Fires and Explosions	**8**	**1.0%**	**13**	**0.5%**
Assaults and Violent Acts	**4**	**0.5%**	**7**	**0.3%**
Assaults and Violent Acts by Person(s)	2	0.3%	3	0.1%
Other Assaults and Violent Acts	2	0.3%	4	0.2%
Other Events or Exposures	**0**	**0.0%**	**0**	**0.0%**
Type of Event - Unknown	**2**	**0.3%**	**11**	**0.4%**
Total	**788**	**100.0%**	**2,497**	**100.0%**

*Bodily reaction: injuries or illnesses resulting from a single incident of free bodily motion which imposed stress or strain on some part of the body.
Data Source: WCB Data, Prepared by Data Development and Evaluation

Duration of Disability

Duration of disability[10] is intended to show the severity of the effects of occupational injury and disease, as reflected by the number of days off work. However, efforts of employers to introduce modified work programs to integrate injured workers more quickly back into the workforce can have a positive impact on workdays lost.

In 2009, 33.1% of lost-time claims resulted in a duration of disability of 10 days or less. Claims with one to five days' duration represented 23.4% of lost-time claims, and six to 10 days, 9.8%. 26.3% of lost-time claims in 2009 resulted in 51 days or more lost from work (see Table 6.5). For all sectors in the province, 13.8% of claimants were unable to work for 51 days or more.

Table 6.5
Duration of Disability — Comparison 2009

Duration of Disability	% of Upstream Oil and Gas Industries' Lost-Time Claims	% of Lost-Time Claims in the Province
1-5 Days	23.4%	39.9%
6-10 Days	9.8%	13.4%
11-15 Days	7.2%	7.6%
16-20 Days	4.8%	5.0%
21-30 Days	7.4%	6.7%
31-40 Days	5.8%	4.7%
41-50 Days	4.2%	3.4%
51 Days or More	26.3%	13.8%
Unspecified	11.2%	5.6%

Data Source: WCB Data, Prepared by Data Development and Evaluation

[10] The duration of disability refers to the length of time, in days, for which the worker receives wage compensation from the WCB.

OCCUPATIONAL FATALITIES

In 2009, the WCB accepted 14 fatalities in the Upstream Oil and Gas Industries, accounting for 12.7% of the 110 fatalities in the province.

A WCB accepted occupational fatality is defined as the death of a worker, resulting from a work-related incident or exposure, which has been accepted by the WCB for compensation. Some of the fatalities accepted in a particular year occurred in prior years.

Types of Occupational Fatalities Accepted by the WCB

All fatalities were classified by type based on WCB classification standards. Occupational fatalities are classified into three general types:

- motor vehicle incidents (including latent motor vehicle incidents)
- workplace incidents (including latent workplace incidents)
- occupational disease

Occupational Health and Safety Officers investigate workplace incidents while local police authorities normally investigate motor vehicle incidents and workers' physicians report deaths due to occupational disease.

Motor Vehicle Incidents

Motor vehicle incidents typically involve non-industrial vehicles operating on public roads in which the fatally injured worker was either the driver or a passenger. This type of occupational fatality also includes cases involving aircraft, train, helicopter and water vehicle crashes. In 2009, three of the Upstream Oil and Gas fatalities accepted by WCB were motor vehicle incidents (see Table 7.1).

Workplace Incidents

Workplace incidents consist of cases in which the worker died at a worksite or as a result of injuries sustained at a worksite. This is the type of fatality that E&I typically investigates. In 2009, nine of the Upstream Oil and Gas fatalities accepted by WCB were workplace incidents (see Table 7.1).

Latent Workplace and Motor Vehicle Fatalities

Latent fatalities consist of workers who were involved in a workplace incident or exposure, or a motor vehicle incident that did not become a fatality until a much later date, often years later. These incidents were classified as occupational diseases. From 2002, these incidents are included with either motor vehicle or workplace incident categories in accordance to their original injury.

Usually other contributing factors cause a latent fatality, although these contributing factors are the result of the initial injury or exposure. A motor vehicle incident where a worker receives leg injuries requiring surgery is a good example of this. Complications during the surgery result in a blood clot causing a fatal stroke, thus, the injury is classified latent because the original injury caused the requirement for surgery. In 2009, there was one latent workplace incident in the Upstream Oil and Gas industries.

Occupational Disease

Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related such as asbestosis and coal workers' pneumoconiosis. This category also includes heart attacks suffered on the job. Occupational diseases are frequently diagnosed several years after the initial or crucial exposure to the toxic substance, and in such cases, it is difficult to determine when the fatal exposure occurred. *The occupational disease category, therefore, should not be interpreted to reflect present worksite hazardous conditions or exposures.*

Each year, the WCB accepts occupational disease fatality claims for compensation. Occupational disease fatality claims that were accepted in a particular year may include fatalities from prior years. In 2009, two of the fatalities accepted by WCB were occupational disease incidents in the Upstream Oil and Gas Industries (see Table 7.1).

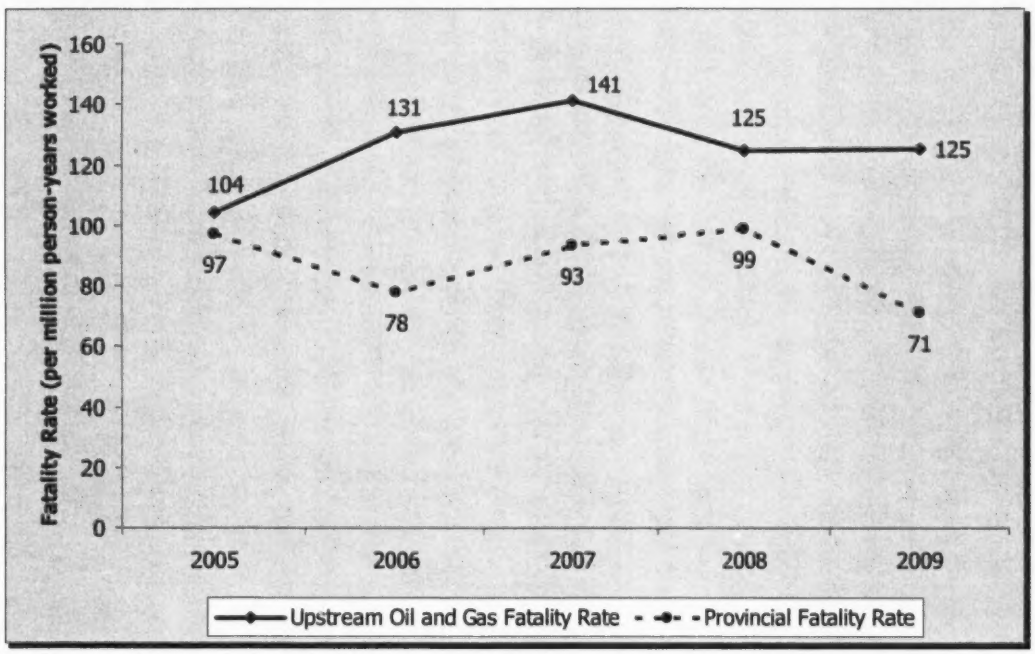
Table 7.1
Types of Occupational Fatalities Accepted by the WCB – Alberta: 2002 - 2009

Year	Motor Vehicle Incident		Workplace Incident		Occupational Disease		Total
	Number of Fatalities	%	Number of Fatalities	%	Number of Fatalities	%	Number of Fatalities
2002	7	38.9%	5	27.8%	6	33.3%	18
2003	10	47.6%	6	28.6%	5	23.8%	21
2004	5	33.3%	7	46.7%	3	20.0%	15
2005	5	41.7%	4	33.3%	3	25.0%	12
2006	10	58.8%	4	23.5%	3	17.6%	17
2007	9	50.0%	4	22.2%	5	27.8%	18
2008	8	47.1%	7	41.2%	2	11.8%	17
2009	**3**	**21.4%**	**9**	**64.3%**	**2**	**14.3%**	**14**
Total	**57**	**43.2%**	**46**	**34.8%**	**29**	**22.0%**	**132**

Data Source: WCB Data, Prepared by Data Development and Evaluation

The fatality rate provides an estimate of the number of fatalities in a particular year compared to the size of the working population in a particular year. It is calculated by dividing the number of accepted fatalities in the year by the number of estimated person-years worked. The result is expressed as fatalities "per million person-years worked." The 2009 fatality rate was 125 per million person-years worked, the same as 2008 (see Chart 7.1). The average fatality rate for all sectors in the province in 2009 was 71 per million person-years worked.

Chart 7.1
Fatality Rate for the Upstream Oil and Gas Industries: 2005-2009



Data Source: WCB Data, Prepared by Data Development and Evaluation

Between 2005 and 2009, the WCB accepted 78 fatalities in the Upstream Oil and Gas industries. The Downhole and Other Oilfield Services sub-sector had the highest with 32 accepted fatalities, accounting for 41.0% of total fatalities (see Table 7.2).

Table 7.2
Upstream Oil and Gas Occupational Fatalities Accepted by the WCB by Sub-Sector – Alberta: 2005 - 2009

Sub-Sector	2005	2006	2007	2008	2009	Number of Fatalities	%
Downhole and Other Oilfield Services	6	8	5	8	5	32	41.0%
Petroleum Producers/Exploration	1	2	5	0	1	9	11.5%
Drilling of Oil and Gas Wells	1	1	1	5	1	9	11.5%
Oilfield Trucking Service Rigs	2	4	4	2	1	13	16.7%
Well Servicing with Service Rigs	2	0	2	2	0	6	7.7%
Oil Sands	0	1	0	0	4	5	6.4%
Oilfield Maintenance and Construction	0	1	1	0	2	4	5.1%
Upstream Oil and Gas Industries	**12**	**17**	**18**	**17**	**14**	**78**	**100.0%**

Data Source: WCB Data, Prepared by Data Development and Evaluation

CERTIFICATE OF RECOGNITION

A Certificate of Recognition (COR) is given to employers who develop health and safety programs that meet established standards. Certificates are jointly issued by Certifying Partners and E&I.[11]

In 2009, 9.0% of Upstream Oil and Gas industries' employers were COR holders. These employers represented 59.8% of the total person-years worked in the Upstream Oil and Gas industries. The Well Servicing with Service Rigs industry had the highest proportion of person-years worked certified, 95.1%. For the Well Servicing with Service Rigs industry, 34.4% of employers had valid CORs in 2009 (see Table 8.1).

Table 8.1
Employers With Valid COR — Alberta: 2009

	Number of Certified Employers	Total Number of Employers	% of Total Employers Certified	% of Total Person-Years Certified
Upstream Oil and Gas industries	**1,452**	**16,117**	**9.0%**	**59.8%**
Downhole and Other Oilfield Services	807	7,786	10.4%	71.3%
Drilling of Oil and Gas Wells	35	139	25.2%	82.3%
Oilfield Maintenance and Construction	232	1,304	17.8%	79.7%
Oilfield Trucking Services	210	1,086	19.3%	82.5%
Petroleum Producers/Exploration	102	5,475	1.9%	51.1%
Oil Sands	4	147	2.7%	18.5%
Well Servicing with Service Rigs	62	180	34.4%	95.1%

Data Source: WCB Data, Prepared by Data Development and Evaluation

The lost-time claim rate for COR holders in Upstream Oil and Gas industries in 2009 was 0.80 per 100 person-years worked, a decrease of 19.2% from 2008. The rate for non-COR holders decreased by 12.5% to 0.56 per 100 person-years worked. The disabling injury rate for COR holders decreased by 33.2% to 2.62 per 100 person-years worked, while the rate for non-COR holders decreased by 16.9% to 1.62 per 100 person-years worked (see Table 8.2).

Comparing COR holders against all non-COR holders provides useful information about each group, although it does not compare like-with-like. A COR is given to employers who

[11] For more information on the COR program visit http://www.employment.alberta.ca/SFW/334.html

develop health and safety programs that meet established standards, with this group seeing continued improvement in its lost-time claim rates. Some non-COR holders have good programs in place above this standard, whereas others do not. This makes evaluating improving health and safety trends less clear for non-COR holders.

The two groups also differ significantly in employer structure and size. COR holders account for 9.0% of employers in the Upstream Oil and Gas industries (Table 8.1) but 59.8% of the person-years worked. Analysis by employer size for the Upstream Oil and Gas industries (Table 3.2), and for all sectors in the province[12], show smaller employers tend to have better health and safety performance than medium-sized and large employers. The pattern of claim rates by employer size differs depending on the measure. Large employers have one of the lowest lost-time claim rates and highest disabling injury rates. This is indicative of having health and safety systems in place and more proficient claims management. It also reflects the greater capacity of large employers to offer modified duties to an injured worker. Smaller employers can find it easier to adjust working practices or introduce set standards, due in part to the size of their operations. The higher levels of health and safety performance observed for small employers also reflects the different type of work undertaken by employers of different sizes.

Table 8.2
Lost-Time Claim and Disabling Injury Rates for Upstream Oil and Gas COR Holders — Alberta: 2008 and 2009

Employer	Year	Number of Accounts	Person-Years	Lost-Time Claims	Disabling Injury Claims	Lost-Time Claim Rate	Disabling Injury Rate	Change in Lost-Time Claim Rate	Change in Disabling Injury Rate
COR	2008	1,449	79,298	783	3,108	0.99	3.92	-19.2%	-33.2%
	2009	1,452	67,208	537	1,763	0.80	2.62		
Non-COR	2008	15,059	56,815	364	1,108	0.64	1.95	-12.5%	-16.9%
	2009	14,665	45,225	251	734	0.56	1.62		

Data Source: WCB Data, Prepared by Data Development and Evaluation

[12] See the Occupational Injury and Diseases in Alberta Summary publication 2009 http://employment.alberta.ca/129.html

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APPENDIX A: TERMS, DEFINITIONS AND FORMULAS

Lost-Time Claim

A lost-time claim (LTC) is a claim for an occupational injury or disease that causes the worker to have time away from work beyond the day of injury. Included are claims receiving reimbursement of full or partial lost wages due to occupational illness or injury, or payment for permanent loss of function.

Modified Work Claim

A modified work claim is a claim for an occupational injury or disease where a worker had their normal work duties altered to enable them to remain working without losing time from work. Also included are claims where injured workers are helped back into the workplace with modified duties after time lost due to injury or disease.

Disabling Injury Claim

Disabling injury (DI) claims combine both the lost-time and modified work concepts to produce an overall figure where an occupational injury or disease disables the worker causing either time-lost from work or for their normal work duties to be modified.

Person-Years Worked

Person-years worked are estimates calculated from wage and payroll data provided by account holders to the WCB. Alberta Employment and Immigration uses data to estimate an average industry wage, and uses the average industry wage and employer payroll data to estimate person-years worked for each employer and each industry. One person-year is equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.

Lost-Time Claim Rate

The lost-time claim rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The lost-time claim rate represents the probability or risk of an injury or disease to a worker during a period of one-year work, which will result in time lost from work. Comparisons of lost-time claim rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.

$$\text{LTC Rate} = \frac{\text{Number of LTC's}}{\text{Person-years worked}} \times 100$$

Disabling Injury Rate

The disabling injury rate is calculated by dividing the number of disabling injury claims by the person-year estimates, and multiplying the result by 100. The disabling injury rate represents the probability or risk of a disabling injury or disease to a worker during a period of one year of work. The disabling injury rate is similar to the LTC rate although it covers a broader range of injuries, including those that are less severe in nature (do not require time away from work). The rate represents the number of claims per 100 person-years worked and includes claims made for both lost-time and modified work.

$$\text{Disabling Injury Rate} = \frac{\text{Number of DI's}}{\text{Person-years worked}} \times 100$$

Duration (Days lost)

The duration of disability is the number of days following the injury or disease for which the worker was disabled and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from the WCB. Alberta Employment and Immigration obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease, although it provides a consistent method for reporting and observing trends in duration.

Duration Rate

The duration rate is calculated by dividing the number of workdays lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as days lost per 100 person-years worked, and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.

$$\text{Duration Rate} = \frac{\text{Disability Days}}{\text{Person-years worked}} \times 100$$

Industry Coverage

About 80% of employed persons in Alberta are covered by WCB. This report focuses on all industry activity in Alberta covered by the WCB and by the provincial legislation for occupational health and safety. Most industry sectors are included but notable exceptions consist of the Government of Canada, and parts of the agriculture and finance sectors. Several professional groups (i.e. the teaching and medical professions) are also excluded as are some industries where WCB coverage is not compulsory.

WCB Accepted Fatality

An occupational fatality is the death of a worker which resulted from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.

Fatality Rate

The fatality rate is calculated by dividing the number of accepted fatalities by the person-years worked estimate and multiplying the result by one million. The result is expressed as fatalities per million person-years worked. Fatalities that are found under the jurisdiction of the Government of Canada are excluded before the calculation of the fatality rate.

$$\text{Fatality Rate} = \frac{\text{Number of Fatalities}}{\text{Person-years worked}} \times 1{,}000{,}000$$

Number of Times Higher/Lower than the Provincial Average

The number of times higher/lower than the provincial average is used to compare the performance of the industries with the province regarding specific injury or disease. A number less than one indicates that the injury of the industries is lower than the provincial average; if equal to one it indicates the injury of the industries is the same as the provincial average and a number greater than one indicates that the injury of the industries is higher than the provincial average.

$$\frac{\text{Per cent of Total Claims for the Industries} \times \text{Industries' LTC Rate}}{\text{Per cent of Total Claims for the Province} \times \text{Provincial LTC Rate}}$$

Where:

$$\text{Per cent of Total Claims for the Industries} = \frac{\text{Number of LTCs for the Industries (e.g. back injury)}}{\text{Total LTCs for the Industries}} \times 100$$

$$\text{Per cent of Total Claims for the Province} = \frac{\text{Number of LTCs for the Province (e.g. back injury)}}{\text{Total LTCs for the Province}} \times 100$$

Labour Force Survey

The Labour Force Survey (LFS) is a household survey carried out monthly by Statistics Canada. The objectives of the LFS have been to divide the working-age population into three mutually exclusive classifications (employed, unemployed, and not in the labour force) and to provide descriptive and explanatory data on each of these categories. Data from the survey provide information on major labour market trends such as shifts in employment across industrial sectors, hours worked, labour force participation and unemployment rates.

For the most part, annual LFS data has been analyzed alongside injury and disease information to aid the understanding of injury risk or frequency by worker type. The LFS uses a different industry classification from WCB, although there are similarities in structure. Where possible, the two data sources are used comparably and proportions (of totals) have been used to evaluate information generated from both sources. Using proportions attempts to overcome obvious distortions in the numbers in employment from both sources, although the impact on the proportions from industry coverage differences is unclear. In certain instances, monthly LFS micro-data files have been combined and used to produce proportion estimates for the whole year for particular sub-groups of the population.

For further information on the LFS, please see
http://www.employment.alberta.ca/BI/2599.html

APPENDIX B: UPSTREAM OIL AND GAS INDUSTRIES WCB INDUSTRY CODES

1. Petroleum Producers/Exploration

06300 – Oil and Gas Exploration and Development – Upstream Operations

09200 – Seismic Survey

2. Oilfield Maintenance and Construction

06304 – Oilfield Maintenance and/or Construction (Upstream of Processing Plants)

3. Well Servicing with Service Rigs

09903 – Well Servicing with Service Rigs

4. Drilling of Oil and Gas Wells

09600 – Drilling of Oil and Gas Wells

5. Downhole and Other Oilfield Services

06305 – Field Production Operators

06306 – Vacuum Removal of Waste – Industrial, Commercial and Oilfield

09201 – Shot Hole Drilling

09900 – Mud Logging

09902 – Pressure Cleaning Services

09904 – Rathole Drilling and Service Rig Anchoring

09911 – Oilfield Downhole Services

09915 – Well Casing Services

09921 – Servicing Christmas Trees on Oil Wells by Means of a Tree Saver

09927 – Liquid Waste Treatment and Disposal

6. Oil Sands

06600 – Oil Sands Operations

06601 – Research and Development, Oilsands and Heavy Oil Recovery

7. Oilfield Trucking Services

50720 – Oilfield Trucking Services

CONTACT INFORMATION

For further information about the data presented in this report contact:

Government of Alberta
Employment and Immigration
Data Development and Evaluation
2nd Floor, 10808 – 99 Avenue
Edmonton, Alberta
T5K 0G5

Telephone: 780-427-8531, toll free by calling 310-0000
Fax: 780-422-5070
Email: whs@gov.ab.ca

Employment and Immigration website:

http://employment.alberta.ca

Work Safe Alberta website:

www.worksafe.alberta.ca

Occupational Health and Safety Contact Centre:

Telephone: 780-415-8690, toll free by calling 1-866-415-8690

http://www.employment.alberta.ca/SFW/2874.html

Certificate of Recognition (COR) Program:

http://www.employment.alberta.ca/SFW/334.html